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Effects of Weight Training Parallel with Plyometric and Cross Training on Elastic Power

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Abstract

The purpose of the study was to find out the effects of weight training parallel with plyometric and cross training on elastic power. To achieve this purpose of the study, forty-five men students studying Bachelors of Physical Education at Department of Physical Education and Sports Sciences, Annamalai University, India were randomly selected as subjects during the year 2005-2006. They were divided into three equal groups of fifteen subjects each. Group I underwent weight training parallel with plyometric training for three sessions per week for twelve weeks. Group II underwent weight training parallel with cross training for three sessions per week for twelve weeks. And group III acted as control group who did not participated in any of the special training programme. Elastic power was only selected as dependent variable. Weight training parallel with plyometric training and weight training parallel with cross training were selected as independent variables. Elastic power was measured by using bunny hops test. The data were collected at prior and immediately after the training programme on elastic power. The collected data were analysed statistically by using analysis of covariance. The scheffe's post hoc test was used to find out paired mean differences, if any. The results of the study revealed that weight training with plyometric training and weight training with cross training groups significantly improved elastic power when compared with control group. Among the training weight parallel with plyometric training is better to develop elastic power than weight parallel with cross training.

Keywords: Yogic Practices, Physical Exercise, Leg Strength, Self-Concept, Blood Pressure.

Introduction

The word training denotes the process of preparation for some task. This process invariably extends to a number of days and even months & years. The benefits of aerobic exercise and fitness include improveed circulation and respiration, reduced risk of heart disease, improved fat metabolism and reduced body weight, fat free mass, strengthened bones, ligaments, body image and emotional stability. Cross training is a powerful training tool to help gain the competitive edge in the primary sport are avoid two negative consequences of training over training and burn out. Its provide various direct and indirect fitness benefits. Provides an additional means of burning fat. Cross training programme usually involves combination of different exercise, each performed for a specific period.

Methodology

The purpose of the study was to find out the effects of weight training parallel with plyometric and cross training on elastic power. To achieve this purpose of the study, forty-five men students studying Bachelors of Physical Education at Department of Physical Education and Sports Sciences, Annamalai University, India were randomly selected as subjects during the year 2005-2006. They were divided into three equal groups of fifteen subjects each. Group I underwent weight training paralell with plyometric training for three sessions per week for twelve weeks. Group II underwent weight training parallel with cross training for three sessions per week for twelve weeks. And group III acted as control group who did not participated in any of the special training programme. Elastic power was only selected as dependent variable. Weight training parallel with plyometric training and weight training parallel with cross training were selected as independent variables. Elastic power was measured by using bunny hops test. The data were collected at prior and immediately after the training programme on elastic power. The collected data were analysed statistically by using analysis of covariance. The scheffe's post hoc test was used to find out paired mean differences, if any.

The analysis of covariance on elastic power of pre and post tests for weight training parallel with plyometric training group, weight training parallel with cross training group and control group was analysed and presented in Table I.

Results

The data collected prior to and after the experimental periods were analysed and presented in the following tables,

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Table I. Analysis of covariance on elastic power of pre and post tests for weight training parallel with plyometric training group, weight training parallel with cross training group and control group

Test	Weight parallel with plyometric training group	Weight parallel with Cross training group	Control Group	Source of Variance	Sum of Squares	Df	Mean Squares	Obtained 'F' Ratio
Pre Test								
Mean	8.27	8.37	8.60	Between	0.781	2	0.491	2.97
S.D.	2.11	2.09	1.89	Within	6.93	42	0.165	
Post Test								
Mean	10.78	10.84	8.62	Between	51.07	2	25.53	117.59*
S.D.	1.62	1.59	1.88	Within	9.12	42	0.217	
Adjusted Post Test								
Mean	10.72	10.56	8.63	Between	53.90	2	26.95	175.94*
				Within	6.28	41	0.150	

* Significant at .05 level of confidence.
(The table values required for significance at .05 level of confidence for df 2 and 42 and 2 and 41 are 3.22 and 3.23 respectively).

The table I shows that the adjusted post test means of weight and plyometric training group, weight and cross training group and control group were 10.72, 10.56 and 8.63 respectively. The obtained 'F' ratio for adjusted post test of 175.94 which was more than the table value of 3.23 with df 2 and 41 required for significance at .05 level. The results of the study indicated that there was a significant difference on elastic power among the adjusted post test means of weight training parallel with plyometric training group, weight training parallel with cross training group and control group. Since, three groups were compared, whenever the obtained 'F' ratio for adjusted post test was found to be significant, the Scheffe's test to find out the paired mean differences and it was presented in Table II.

Table II. The scheffe's test for the differences between paired means on elastic power

Weight training parallel with plyometric training group	Weight training parallel with and Cross training group	Control Group	Mean Differences	Confidence Interval Value
10.72	10.56	-	0.16	0.89
10.72	-	8.63	2.09*	0.89
-	10.56	8.63	1.93*	0.89

* Significant at .05 level of confidence.

The table II shows that the mean difference values between weight training parallel with plyometric training group and control group and weight parallel with cross training group and control group 2.09 and 1.93 respectively on elastic power which are greater than the required confidence interval value 0.89 for significance. And also the table shows that the mean difference between weight training parallel with plyometric training group and weight training parallel with cross training group 0.16 which is less than the required confidence interval value 0.89. The results of this study showed that there was a significant difference exists between weight training parallel with plyometric training group and control group and weight training parallel with cross training group and control group on elastic power. The results of the study also showed that there was no significant difference between weight training parallel with plyometric training group and weight parallel with cross training group on elastic power.

Conclusions

1. There was a significant difference exist among weight training parallel with plyometric training group, weight training parallel with cross training group and control group on elastic power.
2. No significant difference exists between weight training parallel with plyometric training group and weight training parallel with cross training group on elastic power. However, the improvement of elastic power was in favour of weight training parallel with plyometric power.

3. There was a significant improvement on elastic power due to weight training parallel with plyometric training and weight parallel with cross training.

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